

Sub
C
B
1. (Twice amended) A method for treating a nerve-related vision disorder, improving vision, treating memory impairment or enhancing memory performance in a mammal in need thereof [an animal], which comprises administering to said mammal [animal] an effective amount of a [heterocyclic ester or amide compound] nitrogen-containing heterocyclic compound having two or more heteroatoms,

wherein said compound has an N-linked substituent selected from the group consisting of -C(W)-C(Y)-

wherein W and Y are independently selected from the group consisting of O, S, CH₂, and H₂,

wherein said compound is additionally substituted with a ester or amide substituent attached to the heterocyclic ring, and

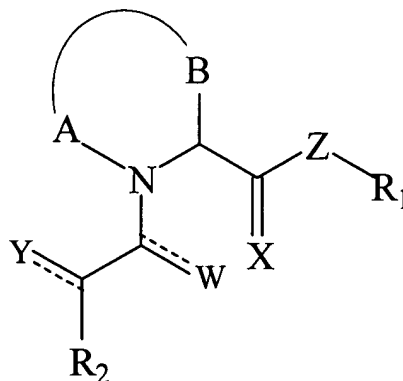
wherein the nerve-related vision disorder is selected from the group consisting of visual impairments; orbital disorders; disorders of the lacrimal apparatus; disorders of the eyelids; disorders of the conjunctiva; disorders of the cornea; cataract; disorders of the uveal tract; disorders of the retina; disorders of the optic nerve or visual pathways; free radical induced eye disorders and diseases; immunologically-mediated eye disorders and diseases; eye injuries; and symptoms and complications of eye disease, eye disorder, and eye injury.

In claim 8, please replace "claim 7" with --claim 22--.

In claim 9, please replace "claim 7" with --claim 22--.

[Please add the following new claims:]

--22. The method of claim 1, wherein the compound is of formula I



or a pharmaceutically acceptable salt, ester, or solvate thereof, wherein:

A and B, together with the nitrogen and carbon atoms to which they are respectively attached, form a 5-7 membered saturated or unsaturated heterocyclic ring containing, in addition to the nitrogen atom, one or more additional O, S, SO, SO₂, N, NH, or NR₁ heteroatom(s);

X is O or S;

Z is O, NH, NR₁, or a bond;

W and Y are independently O, S, CH₂, or H₂;

R₁ is C₁-C₆ straight or branched chain alkyl or C₂-C₆ straight or branched chain alkenyl, which is substituted in one or more position(s) with one or more substituent(s) independently selected from the group consisting of (Ar₁)_n, C₁-C₆ straight or branched chain

alkyl or C₂-C₆ straight or branched chain alkenyl substituted with (Ar₁)_n, C₃-C₈ cycloalkyl, C₁-C₆ straight or branched chain alkyl or C₂-C₆ straight or branched chain alkenyl substituted with C₃-C₈ cycloalkyl, and Ar₂;

n is 1 or 2;

R₂ is C₁-C₉ straight or branched chain alkyl, C₂-C₉ straight or branched chain alkenyl, C₃-C₈ cycloalkyl, C₅-C₇ cycloalkenyl or Ar₁,

wherein said alkyl, alkenyl, cycloalkyl or cycloalkenyl is either unsubstituted or substituted with one or more substituent(s) independently selected from the group consisting of C₁-C₄ straight or branched chain alkyl, C₂-C₄ straight or branched chain alkenyl, and hydroxy; and

Ar₁ and Ar₂ are independently an alicyclic or aromatic, mono-, bi- or tricyclic, carbo- or heterocyclic ring,

wherein the ring is either unsubstituted or substituted with one or more substituent(s) independently selected from the group consisting of halo, hydroxy, nitro, trifluoromethyl, C₁-C₆ straight or branched chain alkyl, C₂-C₆ straight or branched chain alkenyl, C₁-C₄ alkoxy, C₂-C₄ alkenyloxy, phenoxy, benzyloxy, and amino,

wherein the individual ring size is 5-6 members, and

wherein the heterocyclic ring contains 1-6 heteroatom(s) independently selected from the group consisting of O, N, and S.

23. The method of claim 1, wherein the mammal is human.

24. The method of claim 1, wherein the nerve-related vision disorder is retinal ischemia.

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Cont'd
25. The method of claim 24, wherein the retinal ischemia is selected from the group consisting of degeneration of retinal ganglion cells, degeneration of optic nerve axons, degeneration of myelin sheaths, ischemic optic neuropathy, and retinal vascular blockage.

26. The method of claim 1, wherein the nerve-related vision disorder is optic nerve transection.

27. The method of claim 26, wherein the optic nerve transection is selected from the group consisting of ganglion cell death after optic nerve transection and myelin degeneration after optic nerve transection.

28. The method of claim 1, wherein the nerve-related vision disorder is diabetes.

29. The method of claim 28, wherein the diabetes is selected from the group consisting of diabetes from degeneration and diabetic retinopathy.

30. The method of claim 1, wherein the nerve-related vision disorder is macular degeneration.

31. The method of claim 1, wherein the nerve-related vision disorder is glaucoma related degeneration.